What is claimed is:

1. A photochromic plastic ophthalmic filter lens having a polymer matrix with an effective amount of at least one photochromic agent distributed therein, applied thereto or associated therewith and at least one ophthalmic filtering dye applied thereto, associated therewith or distributed therein, said filter lens having a dominant wavelength between 570 and 605 nm and a color purity between 50% and 75%.

2. An ophthalmic plastic filter lens in accordance with claim 1, which exhibits strongly reduced transmittance of radiations having a wavelength shorter than about 440 nm.

3. An ophthalmic filter lens in accordance with claim 1 wherein the ophthalmic filtering dye is applied to at least one surface of the polymer matrix and thereby forms a filtering dye layer.

4. An ophthalmic filter lens in accordance with claim 1 wherein the ophthalmic filtering dye is distributed throughout the polymer matrix.

5. An ophthalmic filter lens in accordance with claim 1 wherein the ophthalmic filtering dye forms a filtering layer sandwiched between more than one polymer matrices, among which at least one is photochromic.

6. A photochromic plastic ophthalmic filter lens having a polymer matrix with an effective amount of at least one photochromic agent distributed therein, applied thereto or associated therewith and at least one ophthalmic filtering dye applied thereto, associated therewith or distributed therein, said filter lens exhibiting substantially reduced transmittance of radiations having a wavelength shorter than about 550 nm, a photopic transmittance no greater than about 25% in the faded state and no greater than about 10% in the darkened state, and a scotopic transmittance no greater than about 3% in the faded state and no greater than 1% in the darkened state at a wavelength between about 450-550 nm.

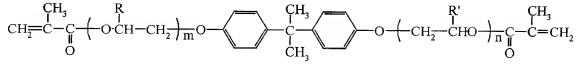
7. An ophthalmic filter lens in accordance with any one of claims 1 to 6, wherein the polymer matrix is made of organic polymers selected from the group consisting of poly(C_1-C_{12} alkyl methacrylates), poly(oxyalkylene dimethacrylates), poly(alkoxylated phenol methacrylates), cellulose acetate, cellulose triacetate, cellulose acetate propionate, cellulose acetate butyrate, poly(vinyl acetate), poly(vinyl alcohol), poly(vinyl chloride), poly(vinylidene chloride), thermoplastic polycarbonates, polyesters, polyurethanes, poly(ethylene terephthalate), polystyrene, poly(α-methylstyrene), poly(styrene-co-methyl methacrylate), poly(styrene-co-acrylonitrile), polyvinylbutyral and polymers and copolymers of monomers selected from the group consisting of polyol (allyl carbonate) monomers, polyfunctional acrylate monomers, polyfunctional methacrylate monomers, diethylene glycol dimethacrylate monomers, diisopropenyl benzene monomers, ethoxylated bisphenol A dimethacrylate monomers, ethylene glycol bismethacrylate monomers, poly(ethylene glycol) bismethacrylate monomers, ethoxylated phenol methacrylate monomers, alkoxylated polyhydric alcohol acrylated monomers and diallylidene pentaerythritol monomers.

8. An ophthalmic filter lens in accordance with claim 7, wherein the at least one photochromic agent is selected from the group consisting of spiroxazines, spiropyrans and chromenes.

9. An ophthalmic filter lens in accordance with claim 8, wherein the at least one photochromic agent is selected from the group consisting of naphthopyrans, benzopyrans, phenanthropyrans, spiro(benzindoline)naphthopyrans, spiro(indoline)benzopyrans, spiro(indoline)naphthopyrans, spiro(indoline)quinopyrans, spiro(indoline)pyrans, spiro(indoline)naphthoxazines, spiro(indoline)pyridobenzoxazines, spiro(benzindoline)pyridobenzoxazines, spiro(benzindoline)naphthoxazines, spiro(indoline)benzoxazines and any mixture or combination thereof.

10. An ophthalmic filter lens in accordance with claim 8, wherein the photochromic agent is distributed throughout the polymer matrix.

11. An ophthalmic filter lens in accordance with any one of claims 1 to 6, wherein the plastic matrix is made of at least one polymer selected from the group consisting of homopolymers, copolymers and combination of polymers of at least one monomer having the following formula (I):



(I)

wherein,

R and R', identical or different, independently are CH_3 or H;

m and n, identical or different, independently are integers between 0 and 4 inclusive; and

copolymers of at least one monomer having formula (I) and an aromatic monomer bearing vinyl, acrylic, or methacrylic functionality.

12. An ophthalmic filter lens in accordance with claim 11, wherein the photochromic agent is distributed throughout the polymer matrix.

13. An ophthalmic filter lens in accordance with claim 11, wherein the plastic matrix is made of at least one polymer containing units from a monomer of formula (I) where R and R' are H, and m=n=1.

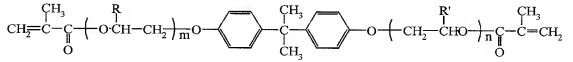
14. An ophthalmic filter lens in accordance with claim 13, wherein the photochromic agent is 1,3,3-trimethylspiro[2H-indole-2,3'-[3H]phenanthra(9,10b)[1,4]oxazine].

15. A method of producing a photochromic plastic filter lens which comprises treating a photochromic plastic article in at least one solution of at least one filtering dye for a time sufficient to impart to the lens the filtering properties of (i) having a

dominant wavelength between 570 and 605 nm and a color purity between 50% and 75%, or (ii) exhibiting substantially reduced transmittance of radiations having a wavelength shorter than about 550 nm, a photopic transmittance no greater than about 25% in the faded state and no greater than about 10% in the darkened state, and a scotopic transmittance no greater than about 3% in the faded state and no greater than 1% in the darkened state at a wavelength between about 450-550 nm..

16. A method of producing a photochromic plastic filter lens which comprises adding and dispersing an effective amount of at least one photochromic agent and an effective amount of at least one ophthalmic filtering dye to a monomer or a mixture of monomers, and thereafter polymerzing the resultant mixture into a photochromic filtering polymer to produce the lens.

17. A method in accordance with claim 16, wherein the monomer is selected from the group consisting of monomers having the following formula (I):



wherein,

R and R', identical or different, independently are CH_3 or H;

m and n, identical or different, independently are integers between 0 and 4 inclusive; and

aromatic monomers bearing vinyl, acrylic, or methacrylic functionality.

18. A method in accordance with claim 17, wherein the wherein the at least one photochromic agent is selected from the group consisting of spiroxazines, spiropyrans and chromenes.

19. A method in accordance with claim 17, wherein the at least one photochromic agent is selected from the group consisting of naphthopyrans, benzopyrans, phenanthropyrans, spiro(benzindoline)naphthopyrans, spiro(indoline)benzopyrans, spiro(indoline)naphthopyrans, spiro(indoline)quinopyrans, spiro(indoline)pyrans,

spiro(indoline)naphthoxazines, spiro(indoline)pyridobenzoxazines, spiro(benzindoline)pyridobenzoxazines, spiro(benzindoline)naphthoxazines, spiro(indoline)benzoxazines and any mixture or combination thereof.

20. A method in accordance with any one of claims 17 to 19, wherein the plastic matrix is made of at least one polymer containing units from a monomer of formula (I) where R and R' are H, and m=n=1.

21. The method of claim 20, wherein the photochromic agent is 1,3,3-trimethylspiro[2H-indole-2,3'-[3H]phenanthra(9,10b)[1,4]oxazine].